

Gray Tower Environmental Assessment



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Executive Summary

The Proposed Action is identified as the Gray Tower telecommunication facility. The Gray Tower is classified as a “New” Transmission and Receiving Site, which consists of the proposed construction of 275’ freestanding self-supporting tower with a 100’ by 100’ fenced compound with associated equipment. The total ground-disturbance area is 0.23 acres. The area is directly adjacent to an existing Regional Communications Center (RCC) and within 110’ feet of an existing tower, which will remain at the site.

The surrounding community to the telecommunications facility and Proposed Action is dominated by single-family residences in a rural agricultural and residential zone in northern Cumberland County, Maine. The proposed Gray Tower site is located at N43° 55’ 47.1” Latitude and W70° 21’ 07.3” Longitude, along Game Farm Road in the Town of Gray. The proposed Gray Tower site will be located on state owned property. The proposed installation will include the construction of a 275’ tall self-supporting lattice tower with associated foundation, a 12’x36’ pre-fabricated equipment building and a 1000 gallon liquid propane tank. The installation will be encircled by a 10’ high chainlink fence to provide safety and security to the site.

The Proposed Action will enable the State of Maine to:

- Provide reliable public safety voice communications throughout Maine;
- Replace and consolidate outdated infrastructure;
- Reduce development and operating costs;
- Meet current and future federal communications mandates;
- Continue interoperability with local public safety agencies.

The Proposed Action will not involve any of the unusual risks or impacts to sensitive areas identified in Section 4 that would require site-specific EA. Therefore, the Proposed Action would warrant the issuance of a FONSI to cover those actions for which no significant impact has been determined. Based upon the available data gathered for this Environmental Assessment, there does not appear to be evidence that would suggest National Environmental Policy Act (NEPA) environmental concerns exist for the Proposed Action. No FCC special interest items were identified that would require a site-specific Environmental Assessment.

Environmental Assessment

Chapter One – Introduction

1.1 Introduction

Maine is a predominantly rural state with a large land mass (over 35,300 square miles) for its population of 1.3 million people, who are concentrated in the southern areas of the state.

Telecommunications infrastructure has been identified as a priority for decades, particularly as state and federal interoperability standards and federal narrowbanding requirements have been enacted. Historically, Maine State agencies have communicated statewide using their own separate and distinct systems, resulting in system interoperability challenges, as well as problems with interagency coordination. To remedy this situation, on July 1, 2007, the State Office of Information Technology (OIT) assumed ownership of the disparate communications systems once owned and operated independently by the Maine State Police, Maine Warden Service, Maine Forest Service, Maine Marine Patrol, and Maine Emergency Management Agency. These communication systems are currently being consolidated into a single interoperable voice and data communication system called the Maine State Communications Network (MSCommNet). The independent agencies now act as clients to OIT. An interagency agreement and access protocol has been developed to assure maximum participation and interagency coordination.

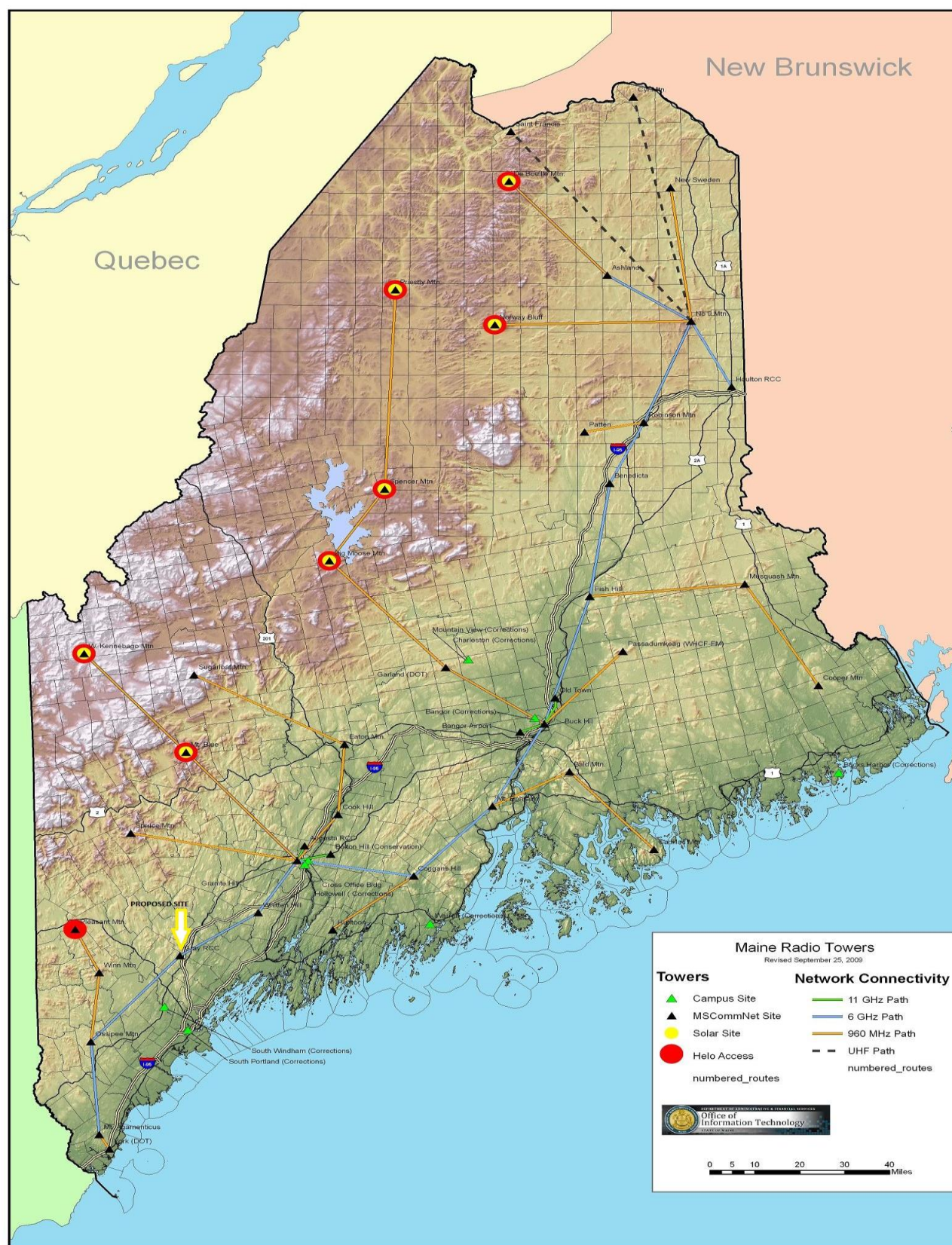
MSCommNet is a statewide initiative to modernize and improve the State of Maine's radio communication system, including upgrades of the infrastructure sites as well as updates to RF radio equipment technology and microwave backhaul. Funded through state and federal sources, the MSCommNet project will improve interoperability across statewide agencies as well as providing a gateway for non-State public safety users to communicate on the network. A key aim of the statewide infrastructure enhancement is to seek efficiencies through consolidation and shared technology resources; thus MSCommNet facilities are developed with the capacity to host public safety entities across county, state, and federal agencies. 42 radio communications sites across Maine have been identified for upgrades and improvements; one of which is located at a strategic site in the town of Gray in southern Maine.

The proposed action entails construction of a 275' tower at the Regional Communications Center (RCC) site in Gray, Maine, where the existing tower has reached/exceeded capacity for current demand and cannot support the proposed upgrades. MSCommNet seeks this action in order to fulfill the Statewide Communications Interoperability Plan (SCIP) for achieving state communications goals.

Gray is a major Regional Communication Center and Public Safety Answering Point (PSAP) point for the Maine Department of Public Safety (911 calls). The Gray RCC dispatches for the Maine Department of Public Safety, Maine Fire Marshal's Office, Maine Department of Inland Fisheries, US Border Patrol, and sixteen southern Maine fire departments, either from transmitters located at the RCC or from transmitters located at remote sites that are interconnected to Gray via the microwave system. In addition to dispatch, the Gray RCC also provides tower space for Department of Transportation federal agencies and local fire departments for the towns of Cornish, Poland and Limerick. Recently, the dispatching function for 12 public entities in the area has been added to the Gray RCC and additional communications responsibilities may be assigned to this location as a result of PSAP consolidation in the state of Maine. This consolidation will put yet more pressure on the already fragile infrastructure.

As shown on the map presented on the following page, the Gray RCC is in the southwestern portion of Maine, connecting the southern heavily-populated counties of Cumberland and York to all points north, as part of the Maine radio tower network.

Figure 1. Maine Radio Network



1.2 Purpose and Need

PURPOSE:

In order to meet state interoperable communications goals, MSCommNet identified the following five objectives for the Gray site:

1. Provide reliable public safety voice communications throughout Maine. The Gray facility will serve a key function in connecting the statewide network of 42 sites.
2. Continue interoperability with local public safety agencies. The Gray site will provide sufficient capacity to meet increased demand from Maine's public safety network of agencies.
3. Replace and consolidate outdated infrastructure. Complete necessary upgrades and modernization in order to comply with state goals and federal communications standards and requirements.
4. Reduce development and operating costs. Minimize adverse impact (environmental, financial, human and organizational) by utilizing existing systems and structures wherever possible. Maximize efficiency of the Gray site through co-location with the U.S. Customs and Border Protection (CBP) and partnering with CBP and participating state agencies on a streamlined equipment infrastructure plan and shared site maintenance tasks.
5. Meet current and future federal communications mandates. Establish the Gray RCC as a hub for public safety communications, based on its strategic location in the state, existing uses, and potential for future demand.

NEED:

The Gray site is a critical link in Maine's radio communications network, and current infrastructure is woefully inadequate. In 2007, the Maine State Office of Information Technology conducted an intensive study of the existing communications systems and infrastructure owned and operated by the various Agencies to be consolidated under MSCommNet. The study forms the basis for all procurement and development activities for the consolidated network. The facility in Gray was reviewed for its significance, functionality, and capacity.

- The Gray site is used for primary E911 call center dispatching purposes as well as backup for zone 1, region 1 control, region 2 control, region 5 control and state-wide car to car. An increasing load of PSAP functions are being assigned to the Gray facility.

- The Gray site is a major microwave and VHF RF connection that creates interoperability by connecting additional sites to the MSCommNet communications system. The connecting sites are: Ossipee Mountain and Whitten Hill.
- Gray is very near the population center for the state of Maine and provides service to the most heavily populated counties in the state. As this is a strategic site and the intersection of the North-South microwave links, it is extremely important that this location be built to national standards.
- In addition, the Gray location has been identified by DHS Office of Emergency Communications as a critical site, with upgrades and site modernization fully supported under the State Communications Interoperability Plan.
- The existing infrastructure site is inadequate and cannot support the necessary upgrades, as **structural analysis has indicated the existing tower is at nearly 200% capacity**. In August 2007, All-Points Technology Corporation, P.C. (APT) performed a condition assessment and structural analysis of the Gray 275' self-supporting tower. The analysis was performed with the existing antenna loading and for the addition of an omnidirectional antenna and two 8' dishes with radomes. Their analysis indicated the **tower does not meet the public safety communications requirements of TIA-222 and IBC 2003 under existing or proposed loadings**. The tower would require reinforcement on at least seven 20' tower sections to meet current code requirements. The base foundations could not be evaluated, as information on their design or construction was not available. Overall, the existing tower was found to be inadequate for the requirements of the proposed public safety communications network.

Given its importance as a regional communications center and its significance to the state telecommunications infrastructure, the need for improvement to the Gray facility is deemed critical and of highest priority of the MSCommNet project.

Chapter Two – Proposed Action

2.1 Project Description

The proposed project is to construct a 275' radio tower at the Gray site, as a strategic site modernization effort which is itself part of a comprehensive project to improve statewide public safety communications infrastructure. The proposed tower in Gray is one of 42 sites throughout the state being built/upgraded by the MSCommNet project.

In March 2010, on behalf of the MSCommNet project, Jacobs Engineering of Boston Massachusetts performed a site review and planning application for the Town of Gray Planning Board. Their report details the proposed action and associated potential impacts:

As part of their effort to consolidate and improve the communications systems of several agencies, the State of Maine is implementing the MSCommNet project. The objectives of the statewide project are to:

- Provide reliable public safety voice communications throughout Maine;
- Replace and consolidate outdated infrastructure;
- Reduce development and operating costs;
- Meet current and future federal communications mandates;
- Continue interoperability with local public safety agencies.

The proposed installation will include the construction of a 275' tall self-supporting lattice tower with associated foundation, a 12'x36' pre-fabricated equipment building and a 1000 gallon liquid propane tank. The installation will be encircled by a 10' high chainlink fence to provide safety and security to the site.

The proposed tower will be designed with capacity beyond the initial required antenna loading in order to accommodate future antennas. As this is primarily a State of Maine funded project, the state does not permit commercial entities to co-locate at their facilities; however the State does support and encourage public safety entities to co-locate at their facilities and has designed a process for soliciting and coordinating infrastructure access across agencies.

It should be noted that being a part of a "public safety" network, the towers designed under the MSCommNet project are designed to a more stringent standard than typical commercial telecommunications structures. Under the TIA-222-G standard, the proposed tower in Gray is classified as a Class III structure, used primarily for essential communications. This classification requires the tower be designed to resist higher wind and seismic load conditions than those towers in Class I and II.

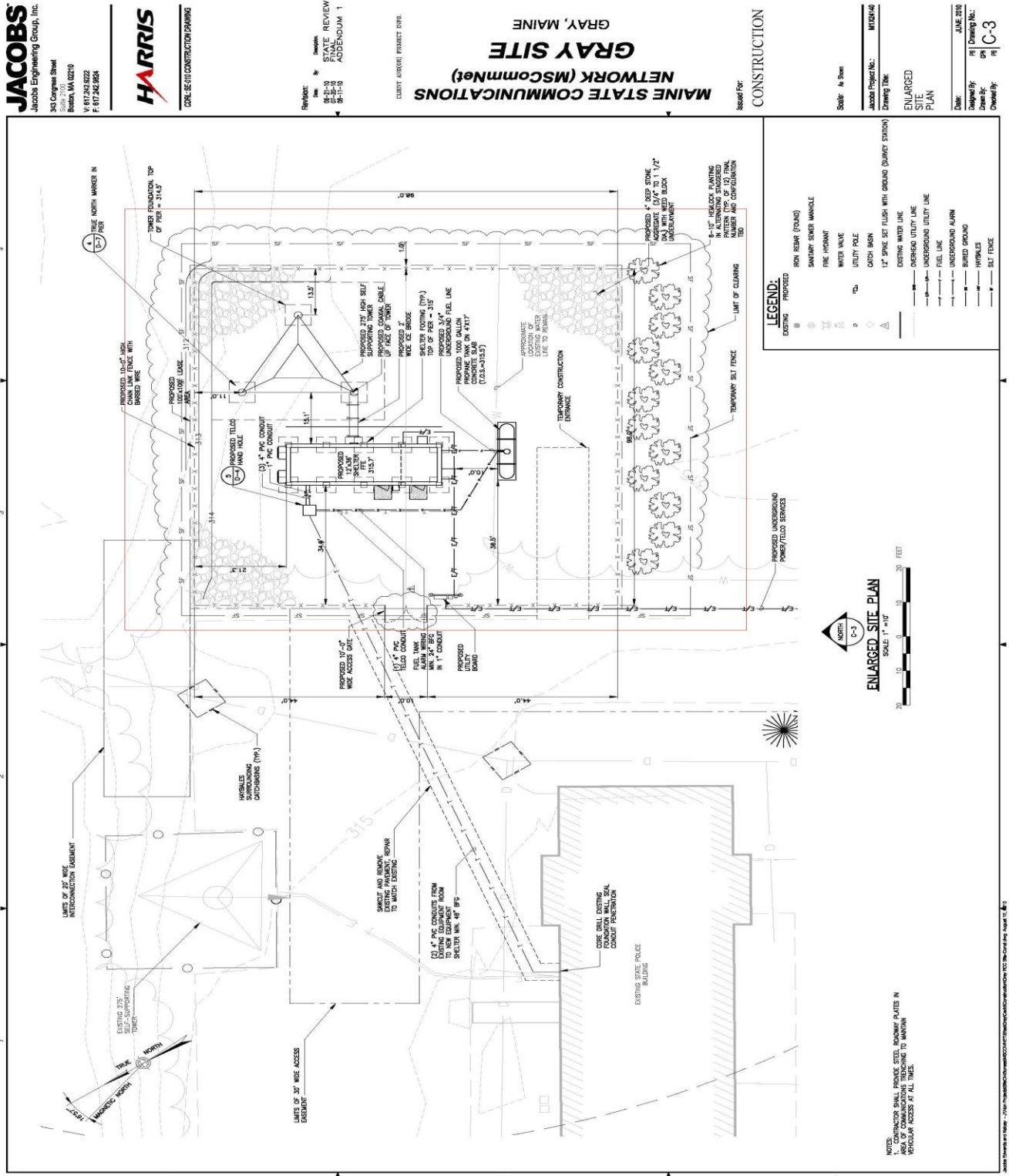
The location of the new tower is in a wooded, sparsely populated area and does not fall within any of the following zones as determined by the Town of Gray Ordinances:

- Well Head Protection Zone 2 (WH2)
- Shoreland Zoning area
- Village Aquifer Protection Zone (VAP)
- Telecommunications Overlay Zones

The proposed tower is to be located as close as possible (at a distance of 110') to the existing tower, which is to remain at the site. The existing tower is 275' tall. The proposed tower is to be equal in height (275'). The new tower is to be surrounded by mature pine trees approximately 75' tall on three sides. Accessibility to the facility through the State Police driveway is to be provided on the fourth side. The proposed tower is to be located approximately 217.5' from the closest adjacent property line. Town ordinances specify a fall-zone requirement of 125% from all property lines. The proposed tower will be set back less than the required 344' from the closest property line; however the closest residence is located outside of the 125% fall zone approximately 353' away.

Construction of the new tower entails a total ground disturbance of approximately 10,000 square feet (.23 acre), as shown on the attached site plans. Harris Corporation and Jacobs Engineering have been contracted to perform the proposed tower construction and equipment installation for all of the MCommNet sites, including the Gray location. Site preparation and tower construction is anticipated to take approximately 12-15 weeks. The U.S. Customs and Border Protection (CBP) will co-locate and install their own equipment and antennas at the site after the tower work has been completed. Existing buildings, roads, fencing and utility lines are incorporated into the project as much as possible, to reduce impact and additional expense. The existing tower still has useful life and will be retained; local approval through an ordinance change has been secured for this purpose.

Figure 3. Site Plan Enlarged



Considerable planning effort has taken place in order to achieve project goals. The State of Maine Office of Information Technology has acquired the necessary resources and supports to enable successful completion of the proposed upgrades to the Gray facility.

- Funding for the MScCommNet project, including the Gray site, has been identified and approved by the State of Maine legislature. It will cost approximately \$900,000 to upgrade the Gray site. This upgrade will include the proposed addition of a 275' tower, in addition to a new power plant, generator, site preparation, and services that includes systems engineering, geo-technical expertise, project management, and documentation. Beyond the \$900,000 for site modernization, the VHF radio site equipment, the connection to the legacy WAN and the microwave interconnect/backhaul are budgeted at approximately \$400,000. Maine is prepared to invest this \$400,000 upon completion of the site modernization.
- Land deeds, interagency lease procedures, and access easement for the Gray facility and the proposed tower have all been reviewed and approved by State and municipal authorities. As the land is state-owned and the usage of the site will not be altered from its current use as a telecommunications center, the planning and zoning requirements are straightforward. Approvals to retain the existing tower for continued service within code requirements have been obtained from municipal authorities.
- MScCommNet has applied for all necessary FCC licenses for new sites and frequencies, including the Gray location. Maine's frequency licensing is complicated by the "A Line" issue which requires that new and modified frequencies do not interfere with communications in neighboring Canadian provinces; therefore licensing and renewals can be a lengthy process. All microwave licenses are in place for the proposed activity at the Gray Regional Communications Center (RCC).

Once completed and operational, the Gray RCC will serve the public safety needs as intended, providing a hub for interoperable emergency communications and linking Maine's most populous region with the rest of the state.

2.2 Alternatives

ALTERNATIVE 1: Given the existence of the current communications facility and tower in Gray, consideration has been given to modification and upgrades to the existing tower in order to address project needs. If possible, successful retro-fit to the existing tower would lessen both ground disturbance and visual impact of a second tower construction, and would use existing infrastructure. However, structural analysis of the existing tower revealed such significant deficiencies that all upgrade options were ruled out. Failures to meet current code and the inability of the tower, even with major

structural improvements, to meet load and regulatory requirements for modern public safety telecommunications make this alternative unfeasible and undesirable. A copy of the structural analysis report on the existing tower is included as Appendix A.

ALTERNATIVE 2 (Preferred): Construct a second tower, in close proximity to the first and utilizing as much existing infrastructure as possible, in order to achieve project objectives. As described in the project description, the construction of a new tower is part of an overall statewide plan to improve its communications infrastructure across 42 interconnected sites in Maine. With sufficient capacity to meet the current and future load requirements, and to allow co-location of U.S Customs and Border Protection (CBP) equipment, the construction of a second tower presents a viable solution.

ALTERNATIVE 3: No Action. By taking no action at the Gray facility, the State of Maine would be unable to meet the goals of its Statewide Communications Interoperability Plan (SCIP) and the MSCommNet project would be unable meet its mission to develop a consolidated public safety communications network across the state. Specifically, MSCommNet would be unable to meet its stated objectives to:

- Provide reliable public safety voice communications throughout Maine;
- Replace and consolidate outdated infrastructure;
- Meet current and future federal communications mandates;
- Continue interoperability with local public safety agencies.

As noted previously in this report, the Gray site is a critical hub for emergency communications and serves as a vital link between southern Maine and the rest of the state.

2.3 Preferred Alternative

Construction of a new 275' tower at the Gray facility offers the best solution for achieving the project objectives and meeting the needs to modernize and upgrade outdated and under-capacity infrastructure. As Maine consolidates and improves its communications network for the future, the Gray site will be able to fulfill its key role in emergency management services, and the new Class III tower will provide capacity to multiple public safety entities.

2.4 Alternatives Considered but Eliminated from Further Discussion

ALTERNATIVE: Construct a new tower somewhere else in the region. This alternative is neither practical nor likely to lessen impact on environmental resources. The existence of the RCC in Gray as part of the state communications network provides the advantage of current infrastructure, thereby

lessening the footprint and impact of the proposed construction. Therefore, building a new facility in a different location has no practical merit and has been eliminated from further discussion.

Chapter Three – Existing Environment

Baseline conditions for the site in Gray, Maine are detailed below, using the eleven resource areas defined by the National Environmental Protection Act (NEPA).

Resource 1 - Noise

Noise is defined as unwanted sound that interferes with normal human activities or wildlife behavior, or may otherwise diminish environmental quality (EPA, 1974).

Existing Conditions

The project site is at a developed building site in a wooded area within a rural residential zone, where sound levels are limited to the typical traffic patterns associated with rural areas in Maine. The Gray Regional Communications Center maintains the business office activity associated with a 24/7 emergency call and dispatch center. Occasional and intermittent operation of the facility's back-up generator takes place; this is located inside an interior equipment room and does not generate appreciable noise levels to either building occupants or outside (<50dB.)

Resource 2 - Air Quality

Air quality is measured by the concentration of various pollutants in the atmosphere, usually expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Acceptable levels for six criteria pollutants in ambient air have been established as National Ambient Air Quality Standards (NAAQS). These standards were set by the federal Environmental Protection Agency (EPA) for the maximum levels of air pollutants that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The six criteria air pollutants include carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). PM₁₀ and PM_{2.5} are acronyms for particulate matter consisting of particles smaller than 10 and 2.5 micrometers, respectively. On March 12, 2008 EPA promulgated a revised 8-hour standard for ground-level ozone at 0.075 ppm (75 ppb). It became effective June 12, 2008. Maine had been redesignated to attainment of the old ozone standard. In January 2010 EPA issued a proposed Reconsideration of the Ozone NAAQS with a range of 60 to 70 ppb. The final Ozone NAAQS is expected to be promulgated in 2011. As a result of the ozone reconsideration, EPA has stayed the states attainment/nonattainment designations for the 2008 standard. After the ozone standard is finalized the State of Maine will propose attainment/nonattainment areas based on the most current quality assured data.

EPA has revised standards for particle pollution. The particle pollution standard specifically addresses particles smaller than 2.5 microns (PM_{2.5}). The PM_{2.5} standard is 15 micrograms per cubic meter based on an annual average and 35 micrograms per cubic meter on a 24-hour average. Maine has always been in attainment of the particle pollution standard. In 2011 EPA is expected to propose a revised PM_{2.5} NAAQS.

Existing Conditions

Since the ambient air quality in Cumberland County meets established NAAQS and is currently designated as “clean”, air permits are not required for new construction or refitting construction for telecommunication towers that include the following activities: building a road, preparing land to erect a tower, temporary small-scale ground disturbance typically associated with new and refitting tower construction.

Resource 3 - Geology and Soils

Geological resources are described as the geology, soils, and topography that characterize an area. The geology of an area refers specifically to the surface and near-surface materials of the earth and the processes that formed those materials. These resources are typically described in terms of regional or local geology, including mineral resources, earth materials, soil resources, and topography. Descriptions of these resource areas include bedrock or sediment type and structure, unique geologic features, depositional or erosional environment, and age or history. Mineral resources include usable geological materials that have some economic or academic value. Soil resources include the unconsolidated, terrestrial materials overlying the bedrock or parent material and are typically described by their complex type, slope, and physical characteristics. Soil resources also include prime and unique farmlands, which are protected under the Farmland Protection Policy Act of 1981 (FPPA) (P.L. 97–98, 7 U.S.C. §4201). The FPPA applies to prime and unique farmlands and those that are of State and local importance. “Prime farmland” is defined as land that has the best combination of physical and chemical characteristics for successfully producing crops. “Unique” farmland is defined as land that is used for the production of certain high-value crops, such as citrus, tree nuts, olives, and fruits. The Act requires Federal agencies to examine the potentially adverse effects to these resources before approving any action that would irreversibly convert farmlands to nonfarm uses.

Existing Conditions

The bedrock geology of the Gray 7.5-minute quadrangle was mapped during 1995 as part of the State Geologic Mapping Program of the Maine Geological Survey and the U. S. Geological Survey in the Portland 1:100,000-scale map sheet. Most of the quadrangle is of low to moderate relief with the highest elevation of 567 feet in the northwestern corner of the quadrangle. The bedrock of the Gray quadrangle consists primarily of igneous rocks, chiefly granitoids, that constitute a portion of the Sebago pluton of the Carboniferous or Permian age. A 1997 investigation recognized three abundant varieties of granite within the map area: muscovite-garnet granite and migmatite, muscovite-biotite (two-mica) granite, and biotite granite. All three granites are medium to coarse-grained but other textural aspects, most frequently pegmatite, are locally developed. Given its rocky character, the site location is not recognized as farmland, nor has it been identified as a location for mineral resources of economic or academic value.

Resource 4 - Water Resources

Water resources are streams, lakes, rivers, and other aquatic habitats in an area and include surface water, groundwater, wetlands, floodplains, coastal resources, and wild and scenic rivers. Water resources—such as lakes, rivers, streams, creeks, canals, and drainage ditches—make up the surface hydrology of a given watershed. The term “waters of the United States” applies only to surface waters (including rivers, lakes, estuaries, coastal waters, and wetlands) used for commerce, recreation, industry, sources of fishing, and other purposes.

The Safe Drinking Water Act (SDWA) provides for the protection of public health by regulating the U.S. public drinking water supply (P.L. 93–23, 42 U.S.C. §300f). The SDWA aims to protect drinking water and its sources (e.g., rivers, lakes, reservoirs, springs, and groundwater wells) and authorizes EPA to establish national health-based standards for drinking water to protect against naturally occurring and man-made contaminants. Every public water system in the United States is protected by the SDWA. Under Section 1424(e) the SDWA prohibits Federal agencies from funding actions that would contaminate a sole-source aquifer or its recharge area. Any federally funded project (including those that are partially federally funded) with the potential to contaminate a designated sole-source aquifer is subject to review by EPA. EPA’s regulations implementing the SDWA requirements are found in 40 CFR 141–149. Federal SDWA groundwater protection programs are generally implemented at the State level.

The Clean Water Act (CWA), as amended, is the primary Federal law in the United States regulating water pollution (P.L. 92–500, 33 U.S.C. §1251). The CWA regulates water quality of all discharges into “waters of the United States.” Both wetlands and “dry washes” (channels that carry intermittent or

seasonal flow) are considered “waters of the United States.” Administered by EPA, the CWA protects and restores water quality using both water quality standards and technology-based effluent limitations. The EPA publishes surface water quality standards and toxic pollutant criteria at 40 Code of Federal Regulations (CFR) Part 131. The CWA also established the National Pollution Discharge Elimination System (NPDES) permitting program (Section 402) to regulate and enforce discharges into waters of the United States. The NPDES permit program focuses on point-source outfalls associated with industrial wastewater and municipal sewage discharges. Congress has delegated to many States the responsibility to protect and manage water quality within their legal boundaries by establishing water quality standards and identifying waters not meeting these standards. States also manage the NPDES system.

The Coastal Zone Management Act of 1972 (CZMA) (16 U.S.C. §1451) provides States with the authority to determine whether activities of governmental agencies are consistent with federally approved State Coastal Zone Management Plans (CZMP). The intent of the CZMA is to prevent any additional loss of living marine resources, wildlife, and nutrient-enriched areas; alterations in ecological systems; and decreases in undeveloped areas available for public use. Federal statutes, executive orders (EO), State statutes, and State agency regulations and directives protect water quality and the beneficial uses of water resources. EO 11988 (Floodplain Management) and EO 11990 (Protection of Wetlands) mandate the control of activities that indirectly influence water quality. EO 11988 (Floodplain Management) requires Federal agencies to determine whether a Proposed Action would occur within a floodplain and to take action to minimize occupancy and modification of floodplains. A floodplain is defined as the lowlands and flat areas adjoining inland and coastal waters, including floodprone areas of offshore islands. At a minimum, areas designated as floodplains are susceptible to 100-year floods.

Existing Conditions

The Proposed Action is located along an existing roadway at an existing building site, approximately 360 feet above mean sea level. No indications of wetlands, floodplains, coastal management zones, and wild or scenic rivers were noted in the reviewed databases, maps, and site reconnaissance. As noted earlier, the proposed site is not in any of the following zones, as determined by the Town of Gray:

- Well Head Protection Zone 2 (WH2);
- Shoreland Zoning area;
- Village Aquifer Protection Zone (VAP).

Resource 5 - Biological Resources

Biological resources are animals, plants, and their habitats that are native to an area, including threatened or endangered species. In general, biological resources can include native and introduced

(non-native) plants that comprise the various habitats, animals present in such habitats, and natural areas that help support these plant and wildlife populations. Protected or sensitive biological resources include plant and animal species listed as threatened or endangered by U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), or a State. The following section describes categories of biological resources such as vegetation and associated habitats, wildlife, threatened and endangered species, and wetlands.

The Endangered Species Act (ESA) (16 U.S.C. §1531) requires Federal agencies to conserve endangered species by listing endangered and threatened species of plants and animals and designating the critical habitat for animal species. The ESA defines an endangered species as any species in danger of extinction throughout all or a significant area of its range and a threatened species as any species likely to become endangered in the near future. Under Section 7 of the ESA, Federal agencies, in consultation with USFWS or NMFS, must ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species (i.e., a listed species) or to result in the destruction or adverse modification of critical habitat, defined as a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection (USFWS, 2007). USFWS and NMFS are responsible for compiling official lists of threatened and endangered species. If a Proposed Action may adversely affect a listed species or critical habitat, the Federal agency must prepare a Biological Assessment (BA) and initiate a formal consultation with USFWS or NMFS. After reviewing the BA, USFWS or NMFS prepares a Biological Opinion stating whether the Proposed Action is likely to jeopardize the continued existence of a listed species or cause the destruction or adverse modification of critical habitat. The purpose of the consultation process is to ensure avoidance and minimization of potential adverse impacts on listed species or critical habitats. Formal consultation is not required if the Federal agency determines, and USFWS or NMFS concurs in writing, that the Proposed Action is not likely to adversely affect listed species. In addition, the ESA prohibits all persons subject to U.S. jurisdiction, including Federal agencies, from, among other things, “taking” endangered or threatened species. The “taking” prohibition includes any harm or harassment, and applies in the United States and on the high seas.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §703) was first enacted to implement the 1916 convention between the United States and Great Britain for the protection of birds migrating between the U.S. and Canada, offering much-needed protection to many bird species during a time when commercial trade in birds and their feathers was popular. The statute makes it unlawful to pursue, hunt, take, capture, kill or sell birds listed in the statute as “migratory birds”, and does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs and nests. The MBTA is the primary law that affirms or implements the nation’s commitment to four

international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. Each convention protects selected species of birds that are common to both countries (e.g., they occur in both countries at some point during their annual life cycle). The potential impact to property owners can exist when migratory birds seek respite within trees or on buildings considered private property. EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) strengthens the protection of migratory birds and their habitats by directing Federal agencies to take certain actions that implement the MBTA. Specifically, Federal agency actions that have, or are likely to have, a measurable negative effect on migratory bird populations require development and implementation of a Memorandum of Understanding (MOU) with USFWS that promotes the conservation of migratory bird populations. The EO and MOUs are the regulatory basis for conservation actions or renewal of contracts, permits, delegations, or other third-party agreements associated with migratory birds. MOUs established under EO 13186 are published in the Federal Register. USFWS's Division of Migratory Bird Management established several initiatives in the past decade to research collisions of birds with communication towers. In 1999, USFWS established the Communication Tower Working Group, composed of government, industry, and academic groups to study and determine tower construction approaches that prevent bird strikes.

EO 11990 (Protection of Wetlands) requires Federal agencies to provide leadership and take action to minimize the destruction, loss, or degradation of wetland habitat and to preserve and enhance the natural and beneficial values of wetland habitats in carrying out the agency's responsibilities. Wetland habitats generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

Existing Conditions

The Proposed Action is located on a 10,000 square foot (.23 acre) area adjacent to an existing building site that includes a state police building and a 275' telecommunications tower. The proposed construction site is in a wooded area containing mostly white pine that is typical of the region. A study conducted in Fall 2010 indicated that no Rare, Threatened, and Endangered (RTE) species or their suitable habitats, as defined by the federal Endangered Species Act (ESA) were identified at the Gray tower site. Consultation with the U.S. Fish and Wildlife Service (USFWS) was also undertaken, and this survey was reviewed and confirmed by the USFWS in March 2011. Copies of the survey and related correspondence are included in the Appendix to this document. Furthermore, the siting and design process for the project has incorporated recommendations to minimize or eliminate impacts to migratory birds from the USFWS *Interim Guidelines for Communication Tower Siting, Construction, Operation, and Decommissioning* (September 2001).

Resource 6 - Historic and Cultural Resources

Historic and cultural resources are sites, structures, buildings, districts, or objects, associated with important historic events or people, demonstrating design or construction associated with a historically significant movement, or with the potential to yield historic or prehistoric data, that are considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason (NPS, 2008). Typically, historic and cultural resources are subdivided into the following categories:

- Archaeological resources. This includes prehistoric or historic sites where human activity has left physical evidence of that activity but few aboveground structures remain standing.
- Architectural resources. This includes buildings or other structures or groups of structures that are of historic or aesthetic significance.
- Native resources. These include resources of traditional, cultural, or religious significance to a Native American Tribe, Native Hawaiian, or Native Alaskan organization.

There are multiple Federal regulations that protect historic and cultural resources. The National Historic Preservation Act of 1966 (NHPA) (P.L. 89-665, 16 U.S.C. §470) directs the Federal Government to consider the effects of its actions on historic and cultural resources under Section 106 through a four-step compliance process. It is noteworthy, however, that the law does not necessarily mandate preservation but does mandate a carefully considered decision making process. The four steps of the Section 106 compliance process are the following:

1. Establish whether the Proposed Action constitutes an undertaking. Per 36 CFR 800.16, an undertaking is an action funded in whole or in part under the direct or indirect jurisdiction of a Federal agency. If the Proposed Action is an undertaking, the appropriate State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO) and other consulting parties (stakeholders) are identified.
2. Identify National Register-listed or eligible properties. Eligible historic properties in the geographic area of the Proposed Action are identified and evaluated for significance, including properties potentially eligible or listed with the National Register of Historic Places (NRHP) that may be affected by the Proposed Action.
3. Assess affects of Proposed Action on eligible historic properties. If the assessment determines no historic properties or no adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are informed, and the compliance process stops at this step. If the assessment determines actual or potential adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are notified through a letter and supporting documentation.
4. Resolve adverse effects to eligible historic properties through consultation with the SHPO/THPO and Advisory Council on Historic Preservation (ACHP), as necessary.

Existing Conditions

Consultation with the Maine State Historic Preservation Office (SHPO) was carried out in 2010. The SHPO concurred with findings of the U.S. Customs and Border Protection that the project will have no effect on any sites, structures or objects listed or eligible for listing on the National Register of Historic Places. Maine SHPO concurred that the undertaking will not affect historic properties. In the event that archaeological materials are encountered prior to or during construction of the facilities, Maine SHPO must be contacted.

Tribal consultation was also carried out by U.S. Customs and Border Protection with Native American Tribes with interest in the proposed tower site locations across Maine, and including the Gray facility. CBP made good faith efforts to identify the interested tribes and sent letters or e-mails which included project information, site maps, and photographs to: the Aroostook Band of Micmacs, the Houlton band of Maliseet Indians, the Passamaquoddy Tribe of Indians at Indian Point Reservation and Pleasant Point Reservation, the Penobscot Indian Nation, and the Keweenaw Bay Indian Community. Due to the nature of the proposed tower construction in Gray, little potential exists for effects to Indian religious sites. No archaeological sites were recorded in the vicinity of the project area and current land use in the surrounding area was considered.

Resource 7 - Aesthetic and Visual Resources

Effects to aesthetic and visual resources deal broadly with the extent to which development contrasts with the existing environment, architecture, historic or cultural setting, or land use, and the determination of effects is a judgment that must be made by a qualified professional. Visual resources are the natural and man-made features that give an area its visual character. Visual resources generally refer to the urban environment, whereas aesthetic resources typically include impacts to natural and scenic areas. Visual resources are inherently difficult to assess, because they involve subjectivity. Often communities, historical societies, and their corresponding jurisdictional agencies are the arbiters of visual effects resulting from the Proposed Action.

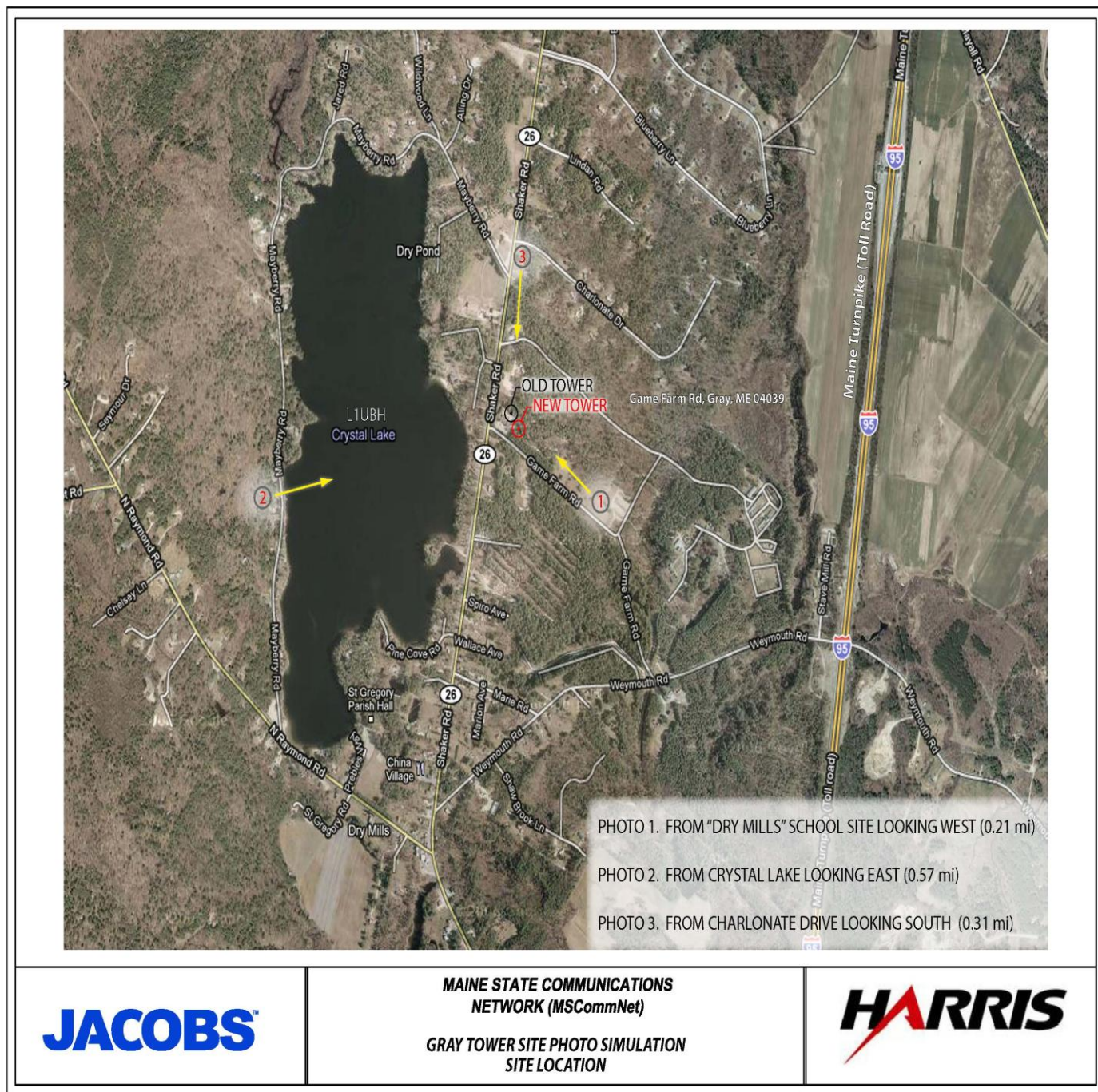
There are no Federal statutory or regulatory requirements for visual resources and aesthetics. State, regional, or local requirements may apply. If the landscape were cultural or historic, or part of a National Historic Landmark, the impacts would need to be reviewed under NHPA Section 106. Similarly, potential visual impacts on scenic byways would need to be assessed under the National Scenic Byways Program (P.L. 105–178, 23 U.S.C. §162) and laws concerning State-designated scenic byways. Consultation with the National Park Service may be required for potential impacts on the visual resources in State and national parks. Potential visual impacts for outdoor recreation sites and facilities covered by Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) (P.L. 88–578, 16 U.S.C. §460) may need to be reviewed.

Existing Conditions

No unique views related to national or state designated scenic byways, cultural or historic resources, or National Historic Landmarks were identified. A scenic assessment of the proposed tower was performed for this location in 2008 by Jacobs Engineering. In addition to meeting with the Town of Gray Code Enforcement Officer, Jacobs researched the “Gray Comprehensive Plan”, dated August 5, 2003. In particular chapter 5, “Natural, Historic and Cultural Resources”, was referenced in identifying potential scenic resources from which the proposed new tower may be visible.

Three locations were identified from which the facility would be visible. The locations identified are the Dry Mills School site, Crystal Lake and Charlonate Drive. An aerial photograph depicting the location of the vantage points and associated distances from the facility has been included on the next page of this document. Photographs of the existing conditions and simulated views of the proposed facility from each location have also been included. The simulated views have accounted for the lighting which would be required per the FAA guidelines. Other natural, historic and cultural resources identified in the comprehensive plan were also visited in performing this scenic assessment to determine if the proposed facility would be visible; however, only the above identified locations were found to be impacted.

Figure 4. Aerial View of Site





JACOBS

MAINE STATE COMMUNICATIONS
NETWORK (MSCommNet)
GRAY TOWER SITE PHOTO SIMULATION
PHOTO 1 - EXISTING TOWER LOCATION

HARRIS

Figure 5. View from Dry Mills



JACOBS

MAINE STATE COMMUNICATIONS
NETWORK (MSCommNet)
GRAY TOWER SITE PHOTO SIMULATION
PHOTO 1 - NEW TOWER LOCATION

HARRIS



Figure 6. View from Crystal Lake



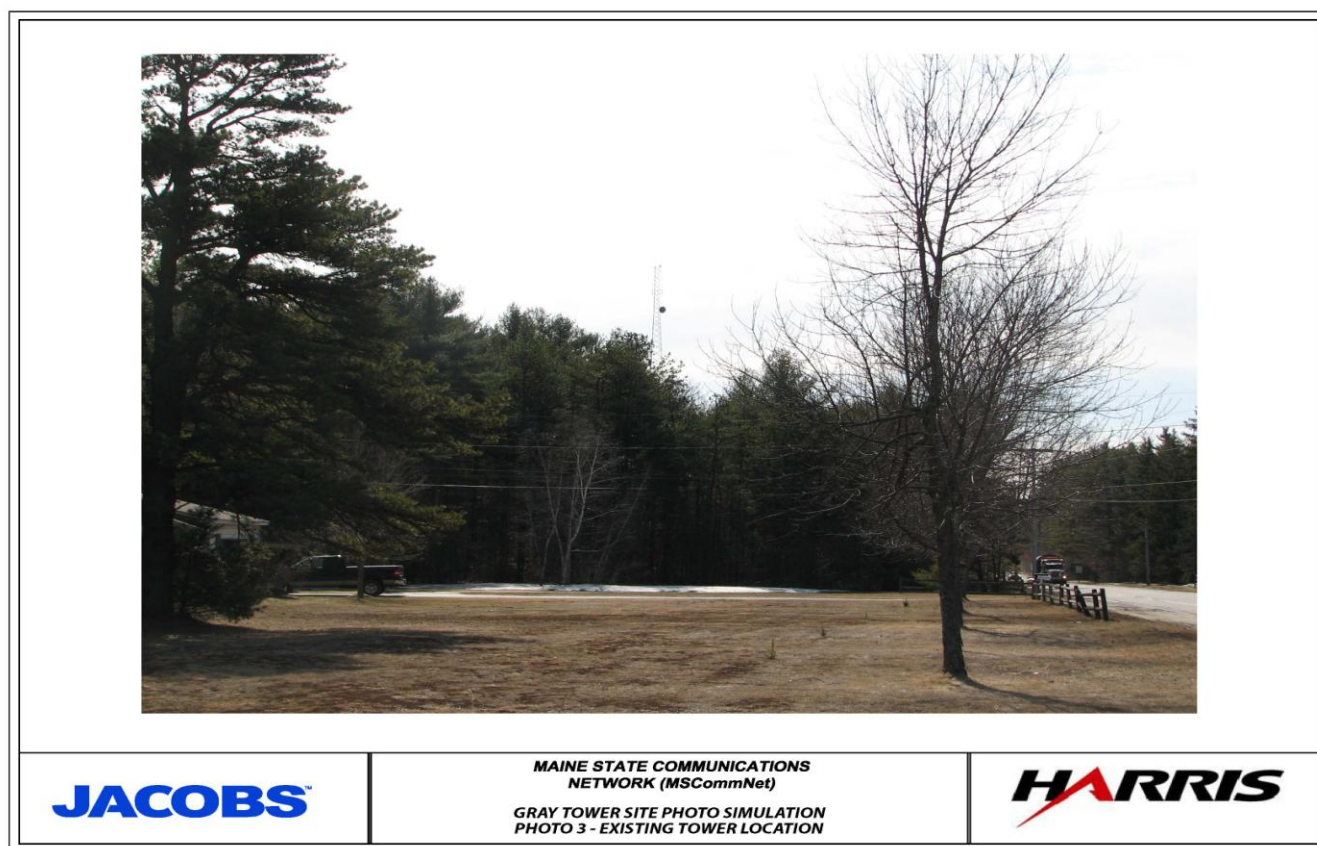
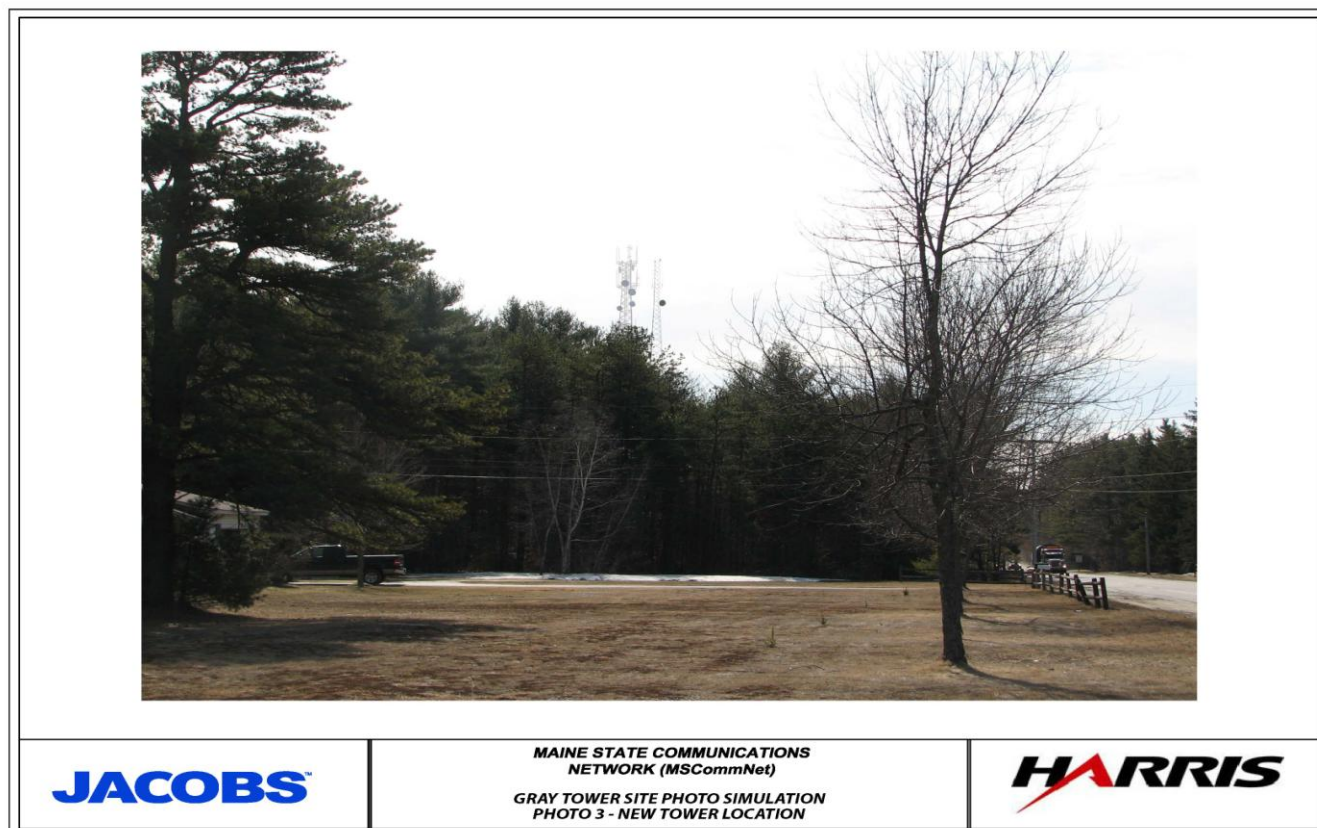


Figure 7. View from Charlonate Drive



Resource 8 - Land Use

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity that occur, or are permitted, on a parcel. There is no nationally recognized convention or uniform terminology for describing land use categories; definitions are typically promulgated at the local level in the form of zoning ordinances. As a result, the meanings of land use descriptions and definitions vary among jurisdictions.

Land use plans are usually established to ensure that development proceeds in an orderly fashion, encouraging compatible uses for adjacent land. There are many tools used in the planning process, including master plans, geospatial databases, and zoning ordinances. A master plan is generally written by a county or municipality to provide a long-term strategy for growth and development. The foremost factor affecting land use is compliance and compatibility with master plans and zoning regulations. Other relevant factors include existing land use at project sites, the types of land uses on adjacent properties and their proximity to a Proposed Action, the duration of a proposed activity, and project permanence as a change in land use.

The following general land use categories will be used when discussing potential impacts to land use for this document: low, medium, and high density residential; commercial; industrial; public, quasi-public, and institutional; agricultural; vacant land; and open space. The following section will describe each area and its characteristic development and compatibility issues. Areas of particular concern include Coastal Zone Management (CZM) areas and coastal barrier islands.

Existing Conditions

General land use is compatible with the proposed activity, which is to be located at an existing telecommunications facility, on a developed property owned by the State of Maine, situated in a low-density land zone defined by the Town of Gray zone map as ‘rural residential and agricultural.’ The present use of the Regional Communications Center facility will not be altered as a result of the project, and the addition of the proposed tower is compatible with local zoning requirements. The Town of Gray *Wireless Telecommunications Facility Siting Ordinance* was approved by the town council in 2001 and regulates the review process for construction of such facilities. Planning Board review and approval for the proposed project was received in May 2010.

Resource 9 - Infrastructure

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure by definition includes a broad array of facilities (e.g., utility systems, streets, highways, railroads, airports, buildings and structures, and other manmade facilities).

Individuals, businesses, governmental entities, and virtually all relationships between these groups depend upon this infrastructure for their most basic needs, as well as for critical and advanced needs (e.g., emergency response and health care). Infrastructure is entirely man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as “developed.” An essential component of economic growth to an area is the availability of infrastructure and its capacity to support growth. The infrastructure components to be discussed in this section include utilities (electricity and communications), solid waste, and the transportation network.

Public utilities can be privately or publicly owned. Public utilities are often governed by a Public Utilities Commission that regulates the rates and services of a public utility. In recent years, several laws have been passed focusing on energy conservation and production. The Energy Policy Act of 2005 (P.L. 109–58) provides tax incentives and loan guarantees for energy production of various types. The Energy Independence and Security Act of 2007 (P.L. 110–140) expanded the production of renewable fuels and contains provisions for energy efficiency, smart grid, and carbon dioxide and incentives for plug-in hybrid electric vehicles to assist the electric power industry's efforts to reduce greenhouse gas emissions.

Regulations governing communications infrastructure include Part 17 Construction, Marking, and Lighting of Antenna Structures of the FCC regulations (47 CFR Chapter 1), which prescribes procedures for antenna structure registration and requires the Federal Aviation Administration (FAA) to conduct an aeronautical study of the navigation air space to determine appropriate tower marking and lighting requirements to achieve safe air space. Before the FCC authorizes the construction of new antenna structures or alteration in the height of existing antenna structures, an FAA determination of “no hazard” may be required. FAA notification is required for any new construction greater than 200 feet above the ground, and near an airport runway (taller than 100:1 for a horizontal distance of 20,000 feet, 50:1 for a horizontal distance of 10,000 feet, and 25:1 for a horizontal distance of 5,000 feet of a heliport). By checking the heights of proposed antennae and their proximity to airports, the FCC's TOWAIR software system assists in determining if FAA notification is required. The FAA can vary marking and lighting recommendations when requested, provided that aviation safety is not compromised. In all cases, safe aviation conditions around the tower are the FCC's primary concern, and safety concerns dictate the marking and lighting requirements. Navigation air space, which starts at 200 feet above the ground, decreases in elevation in close proximity to airports; the minimum height for required marking or lighting would decrease in these areas.

Existing Conditions

The Proposed Action site has a combination of utilities (electricity, communications, and potable water) along with adequate transportation network of roads available in the area and specifically at the site. The tower construction project will optimize existing water and power lines and other infrastructure present at the Gray RCC. As a facility expressly intended to improve emergency services, the proposed project will contribute an important infrastructure component to the region and the state. Both the existing and the proposed 275' tower will meet all FAA guidance for tower painting and lighting. The nearest airport, in Portland, Maine is 17 miles away. All FCC licenses have been obtained, and the proposed project is not within the *Telecommunications Overlay Zones*, as determined by the Town of Gray.

Resource 10 - Socioeconomic Resources

Socioeconomics comprise the basic attributes and resources associated with the human environment, including demographic, economic, and social assets of a community. Demographics focus on population trends and age. Economic metrics provide information on employment trends and industries. Housing, infrastructure, and services are also influenced by socioeconomic factors.

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) directs agencies to address environmental and human health conditions in minority and low-income communities. Environmental justice addresses the disproportionate and adverse effects of a Federal action on low-income or minority populations. The intent of EO 12898 and related directives and regulations is to ensure that low-income and minority populations do not bear a disproportionate burden of negative effects resulting from Federal actions. The general purposes of EO 12898 are:

- ☐ To focus the attention of Federal agencies on human health and environmental conditions in minority communities and low-income communities, with the goal of achieving environmental justice;
- ☐ To foster nondiscrimination in Federal programs that substantially affect human health or the environment;
- ☐ To give minority communities and low-income communities greater opportunities for public participation in, and access to, public information on matters relating to human health and the environment.

Existing Conditions

The Proposed Action area is not located in a low-income or minority community. To the extent to which the proposed facility offers improvements to public safety communications in Maine, it is anticipated that benefits to the population will accrue for all Maine residents.

Resource 11 - Human Health and Safety

A safe environment is one in which there is no danger (or an optimally reduced, potential) for death, serious bodily injury or illness, or property damage. Human health and safety addresses workers' health and safety, and public safety during demolition and construction activities and during subsequent operations of those facilities. Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The health and safety of onsite military and civilian workers are safeguarded by numerous regulations designed to comply with standards issued by Occupational Safety and Health Administration (OSHA), EPA, and State agencies. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors.

Existing Conditions

The Gray Regional Communications Center complies with all human health and safety standards issued by the Occupational Safety and Health Administration (OSHA), EPA, and State agencies. There is no history of safety concerns or documented human health problems at the facility. The Proposed Action entails a construction project adjacent to the existing facility, and will generate many of the typical health and safety concerns associated with routine construction activities. Evidence of adherence to regulatory requirements to protect human health and safety will be demonstrated throughout the duration of the construction activity. Once completed, the facility is expected to return to the operational standards and ambient conditions of a regional dispatch and communications center.

Chapter Four – Environmental Consequences

Resource 1 - Noise

Noise analyses typically evaluate potential changes to the existing noise environment that would result from implementation of a Proposed Action.

Proposed Action

Construction-Related Impacts: Because of construction-related activities, there would be a temporary increase in localized noise generated during the Gray Tower construction activities. Construction activities for new infrastructure may result in short-term, negligible adverse impacts. Noise from the tower construction activities will vary depending on the distance from the source of the noise. The noise levels generated by construction equipment would vary substantially depending on the type of equipment used, operations schedule, and condition of the project area. In addition to daily variations in

construction activities, major construction for new infrastructure would be accomplished in several different stages, with each stage having a specific equipment mix for the work to be accomplished. The use of heavy equipment during construction activities may result in short-term minor adverse impacts on the noise environment, especially if noise-sensitive populations are adjacent to a proposed site. Typically, construction-related noise generation would last only for the duration of construction activities and occur during normal working hours (i.e., 7:00 a.m. to 5:00 p.m.), when noise is tolerated better because of the masking effect of background noise, with equipment being shut off when not in use. Evening noise levels would likely drop to ambient noise levels of the project area.

Therefore, it is anticipated that noise impacts from the Proposed Action construction activities would be short-term and would not exceed typical noise levels. Noise levels dBA at 50 feet from the source would be no greater than 80 dBA for no more than four to six continuous hours per day over a 10 to 35 day period. Construction-related noise impacts from the project would not be significant.

Operations-Related Impacts: After construction has concluded, the ambient noise level would return to its normal level. Temporary noise could be generated by climate control such as heating and air conditioning equipment or backup generators at the project site. Backup generators included in the Proposed Action provide electric power to communications equipment as needed. Electric generators at transmitting and receiving sites are typically powered by either diesel or spark ignition such as propane or natural gas engines. Noise from backup generators is primarily composed of engine noise and exhaust noise. The Gray Tower will have a typical 25-kilowatt (kW) backup generator fueled by propane which will noise levels less than 72 dbA from 23 feet from the source. The backup generator at the Gray Tower is not expected to cause the ambient noise levels to increase. It is anticipated that the use of the generator would be limited and would only occur during equipment maintenance and testing as a backup for primary power equipment and during interruption of the primary (grid) power supply. It can be estimated that the Gray Tower generator would be operated for approximately 12 to 16 hours per year, based on manufacturer maintenance instructions and public safety agency standard operating procedure (SOP).

Because of the occasional and intermittent operation of the backup generator, the Proposed Action is not anticipated to cause adverse long-term impacts or measurably increase the ambient noise levels. Impacts to ambient noise levels resulting from the Proposed Action would not exceed typical operating noise levels and would be short-term. Therefore, there would be no significant long-term noise impacts.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. No adverse impacts on the ambient noise environment would occur under the No Action Alternative.

Resource 2 - Air Quality

Impacts to air quality can come from a variety of sources located at transmitting and receiving sites. During construction, sources of new emissions include construction vehicles and equipment and fugitive dust emissions resulting from ground-disturbing activities and demolition. Operations-related impacts to air quality from transmitting and receiving sites would occur as a result of the operation of backup generators which burn fossil fuels.

Proposed Action

Construction-Related Impacts: Air quality impacts during construction would originate from emission of construction vehicles, equipment, and fugitive dust stirred up during ground disturbing activities. Both would be temporary and of limited duration. Air quality impacts from construction activities vary depending on the construction activity, where the construction would occur, and the distance from the source of the emission.

The use of heavy equipment during construction activities may result in short-term minor adverse impacts on air quality on and near the proposed site. Typically, construction-related air quality impacts would last only for the duration of construction activities and would occur during normal working hours (i.e., 7:00 a.m. to 5:00 p.m.), and would not result in increases in criteria air pollutants greater than exceedance levels. Therefore, it is anticipated that short-term negligible adverse impacts would be expected as a result of construction activities. There would be no significant impact to air quality from construction activities from the Proposed Action.

The minor emissions from construction can be further reduced or mitigated through the use of best management practices (BMP). BMPs for dust control include spraying water to minimize dust, limiting the area of uncovered soil to the minimum needed for each activity, siting of staging areas to minimize fugitive dust, using a soil stabilizer (chemical dust suppressor), mulching, using a temporary gravel cover, limiting the number and speed of vehicles on the site, and covering trucks hauling dirt. BMPs for construction vehicle and equipment emissions include limiting vehicle idling time, using low or ultra-low sulfur fuel (including biodiesel), conducting proper vehicle maintenance, and using electric- instead of gas-powered tools. The proposed project will utilize these BMPs during construction activities and will also use locally available products and materials to reduce transportation-related emissions.

In addition the Gray Tower will require less than 0.23 acres in ground disturbance which is unlikely to result in any exceedance of air quality standards, regulated release of Hazardous Air Pollutants (HAP), or more than a de minimis increase in emissions. The Proposed Action would have no significant impact to air quality from construction related activities.

Operations-Related Impacts: After the construction activities have concluded, the ambient air quality would return to its normal level. Implementation of this Proposed Action would not result in the long-term operation of significant emission-generating sources, nor would it significantly increase or alter the existing ambient air quality levels. Backup generators may be a component of some emissions. Generators are commonly used to provide backup electrical power for communications equipment during an emergency and would be operated as needed. The Gray Tower will utilize a typical 25-kilowatt (kW) backup generator fueled by propane.

The Gray Tower backup generators will only operate during an emergency (“lights out”) or for testing or maintenance being performed on the generator. Federal regulations limit the use of backup generators to 500 hours per year. Backup generators would not be expected to cause the ambient air quality levels to increase because of their limited operation as emergency power sources. The Proposed Action will have a 25-kilowatt (kW) backup generator fueled by propane, which generates lower emissions than other types of fuels (such as diesel, gasoline or jet fuel). The use of the Gray Tower propane backup power generator is not expected to result in increases in criteria air pollutants greater than defined exceedance levels. Therefore, it is not anticipated that any adverse long term impacts on the ambient air quality level would occur. There would be no significant impact to air quality from operations activities.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. There would be no increase in air quality impacts from the No Action Alternative.

Resource 3 - Geology and Soils

Impacts to geology and soils from transmitting and receiving sites would result from ground-disturbing activities such as excavation, grading, backfilling and trenching.

Proposed Action

Construction-Related Impacts: Minimal Soil erosion and runoff may occur from the proposed construction site as a result of ground-disturbing activities such as vegetation clearing, grading, and

digging. Based on the review from the USDA soil classification for the Proposed Action, the soil types at the project site are not defined as prime or unique. The Proposed Action is not located on a unique geologic formation. There would be no significant impact to geology or soil from construction related activities.

Operations-Related Impacts: The continued operation of the Gray RCC after tower construction would not involve any ground-disturbing activities or other activities that would affect geology and soils, including prime and unique farmlands.

Resource 4 - Water Resources

Impacts to water resources can result from several types of activities and procedures that would be in use at transmitting and receiving sites. Impacts would typically result from erosion caused by site runoff, direct contamination by chemicals used in the surrounding area that would be washed into a water body or absorbed into the water table, and building directly in or adjacent to a water resource such as a wetland. The use of erosion-control BMPs to reduce impacts is common practice and may improve water quality at a site. Development in floodplains poses a hazard both to human safety from flood events and to natural resources from the disruption of natural hydrologic patterns.

Proposed Action

Surface Water and Groundwater

Construction-Related Impacts: Water quality impacts during the Gray Tower construction would come from erosion and runoff resulting from soil disturbance for material storage, site access, site preparation, or road and driveway construction. Vehicle and equipment washing could also increase sediment reaching nearby streams. Vehicle and equipment refueling has the potential for spills of petroleum products. All these activities would be temporary and of limited scope. Water quality impacts from the Gray Tower construction activities would vary depending on the construction equipment used, soils where the construction would occur, and the distance between the proposed project site and the receiving waters. Considering the relatively limited size of the Gray Tower footprint (10,000 square feet), construction of the facility is unlikely to result in a significant amount of erosion.

The minor erosion and runoff from the construction can be further reduced or mitigated through the use of BMPs. BMPs for erosion control include silt fencing or straw bales to control erosion, limiting the area of uncovered soil to the minimum needed for each activity, siting of staging areas to minimize erosion, replanting as soon as practicable, mulching, using temporary gravel cover, and limiting the number and speed of vehicles on the site. Chemical, physical, or biological effects to water resources are not expected to result in the violation of water quality standards and criteria. No pesticides or

herbicides will be used at the Gray site. There would be no significant impact to water quality from construction activities of the Gray Tower site.

Operations-Related Impacts: Operations-related impacts would be limited to erosion that occurs before the site is fully re-vegetated or during refueling of the backup generator. BMPs from the construction stage would be continued until the site is fully re-vegetated. A spill plan will be developed and followed to guide the required response in the event of a spill if required. Chemical, physical, or biological effects to water resources are not expected to result in the violation of water quality standards and criteria. There would be no significant impact to water quality from operations activities. The Proposed Action is not located within the 500-year floodplain, and there would be no impact to floodplains.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. There would be no risk of soil erosion or runoff from construction-related activities, nor would there be a risk of hazardous spills or other consequences from pesticides or fertilizers used to re-vegetate a disturbed site. Therefore, there would be no increase in impacts to either water resources or floodplains from the No Action Alternative.

Resource 5 - Biological Resources

Impacts to biological resources can result from several activities, including construction activities such as demolition, grading, excavation, and construction that could alter or destroy habitat, either temporarily or permanently. In addition, the continued presence of human activity on a smaller scale could result in behavioral impacts to certain animal species that could affect feeding and reproductive patterns and habits.

Proposed Action

Wildlife, Wildlife Habitat, and Vegetation

Construction-Related Impacts: Short- and long-term minor impacts on wildlife, habitats, and vegetation would be expected as a result of construction-related activities for the Gray Tower under the Proposed Action. Construction activities for new infrastructure result in the disturbance of habitats and wildlife. Since the Gray Tower is adjacent to an existing facility on a developed land parcel, it would be expected to have less potential for adverse impacts on native vegetation and wildlife. Construction-related activities will have an impact on wildlife, habitat, and vegetation at the Gray Tower project site due to clearing and grading of vegetated areas in preparation of new infrastructure construction. Short- or long-term minor impacts would largely be localized to the immediate project area. Generally, the significance of vegetation loss associated with the project would be less than 0.23 acres and is not

considered to be significant. No pesticides or herbicides will be used at the Gray site. White pine logs and gravel cleared from the Gray site will be donated to the Maine Wildlife Park for their use in natural habitat exhibits. Consultation with US Fish and Wildlife Service confirmed that the proposed site is not critical habitat for any Rare, Threatened, or Endangered Species.

Operations-Related Impacts: Routine maintenance activities at the Gray facility would include mowing around associated site buildings and possibly along access roads. Mowing in these areas would maintain vegetation in early successional stages of development and may prevent reestablishment of some plant species. Similarly, operations practices at the site may lead to habitat degradation and mortality of some wildlife species such as amphibians and small mammals. Following the completion of site development, potentially adverse impacts on wildlife species sensitive to disturbance could result from temporary noise generated by climate control such as heating and air conditioning equipment or the backup generator at the project site. This temporary and low level, but recurring, disturbance might exclude wildlife species or promote colonization by tolerant species. Operations-related activities would be expected to have no significant impact on wildlife, wildlife habitat, and vegetation.

Migratory Birds

Construction-Related Impacts: Short- and long-term minor to moderate adverse impacts on migratory birds would be expected as a result of construction-related activities from the Gray Tower site. Impacts to migratory birds could occur during erection of towers, antennae, ventilation, and air conditioning (HVAC) equipment such as the use of portable cranes. Construction-related activities occurring along migratory bird pathways would be expected to have more potential for adverse impacts on migratory birds than activities in non-migratory areas. Construction-related impacts would be expected to have no significant impact on migratory birds as the use of equipment such as cranes to erect towers, HVAC equipment, and antennae would only be used during limited periods and are short-term impacts. Correspondence with the USFWS determined that the Proposed Action may affect but is not likely to adversely affect biological resources and will not have a significant impact. (See Appendix B - USFWS Letter)

Operations-Related Impacts: Long-term minor to moderate adverse impacts on migratory birds would be expected from the Gray Tower site. Impacts on migratory birds would be expected as a result of collision with operating towers, antennae, and other tall structures, particularly during periods of low visibility and as a result of tower lighting that might be distracting to some species. The probability of collision is difficult to determine programmatically because of the range of variables that affect the potential for collision and the lack of conclusive data on the causes of collision. Adverse impacts on birds resulting from collision generally occur during foggy or low cloud conditions at lighted towers

supported by guy wires and present greater collision risk than freestanding towers or buildings. The Gray Tower is a freestanding self-supported tower of approximately 275 feet. Variables such as structure height above surrounding trees, design, lighting, seasons, adjacent land features, and migratory patterns would affect the potential and degree of adverse impacts on migratory birds. The Proposed Action would be expected to have no significant impact and the Proposed Action may affect but is not likely to adversely affect migratory birds.

Wetlands

Construction-Related Impacts: Since no wetland habitat was observed at the Proposed Action project site or on the surrounding area, constructed-related impacts would be expected to have no impact on wetland habitats.

Operations-Related Impacts: Routine maintenance activities at the Gray facility would include mowing around the Gray Tower infrastructure and possibly along access roads. Since no wetland habitat was observed at the Proposed Action project site, operations-related impacts would be expected to have no impact on wetland habitats.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. No significant impacts on vegetation and wildlife, migratory birds, threatened and endangered species, or wetlands would occur under the No Action Alternative,

Resource 6 - Historic and Cultural Resources

Impacts to historic and cultural resources can occur both from physical disturbance of historic properties and from aesthetic changes to a historic property or its viewshed. To determine the nature of impacts to historic properties, as defined under the NHPA, consultation with the relevant State SHPO, or THPO, are required.

Proposed Action

Construction-Related Impacts: Construction-related impacts to historic and cultural resources at and near the Gray Tower site were assessed to determine if temporary impacts to viewsheds and present risk of permanent impact or harm to historic properties, primarily through ground-disturbing activities. According to the correspondence with the Maine SHPO, the Proposed Action would be expected to have no significant impact and the Proposed Action will not affected historic properties and the project may proceed. See Appendix C for copies of the correspondence with the Maine State Historic Preservation Office. As noted previously, tribal consultation was also initiated and no evidence of Indian

religious or archeological sites has been identified. In the unlikely event that site excavation work unearths items of potential archeological interest, the Maine SHPO will be notified.

Operations-Related Impacts: Operation of the Gray facility does not typically require any ground-disturbing activities; therefore, it is expected that there would be no impact to archaeological resources. Based on correspondence with the SHPO/THPO no adverse impacts were determined.

Resource 7 - Aesthetic and Visual Resources

Potential impacts on aesthetic and visual resources are likely to be greater in more natural (rural) settings than commercial or residential settings (urban and suburban) where development is more common. Impacts on aesthetic and visual resources may be short- or long-term, depending on whether the impact is related to construction activities or the feature that is being constructed.

Proposed Action

Construction-Related Impacts: Under the Proposed Action, the Gray Tower impacts on aesthetics and visual resources from construction-related activities would include the clearing and grading of land, the construction of infrastructure necessary to operate the transmitting and receiving site, and the construction of the specific site facilities. The degree of visual disturbance depends on the existing landscape, project-specific construction activities, and each viewer's perception. The Gray Tower project short-term impacts on aesthetic and visual resources resulting from construction-related activities would likely have no significant impact.

Operations-Related Impacts: Features that might create a permanent contrast with the existing environment would include the Proposed Action communications tower, which is a free-standing 275' structure, located approximately 110' from the existing 275' tower. As described earlier, a scenic assessment was performed to indicate the three vantage points in the local area from which the tower would be visible. Photo simulations of both the existing tower and the proposed tower are included in this document. The long-term impacts resulting from the permanent placement of the Gray Tower site would likely have no significant impact.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. There would be no impact to aesthetic or visual resources resulting from the No Action Alternative.

Resource 8 - Land Use

Impacts to land use can occur when incompatible land uses are placed adjacent to one another. PSIC-funded transmitting and receiving projects would not be compatible with all land use types and should be carefully sited, in accordance with local master plans, planning initiatives, local zoning, and coastal land use restrictions. Transmitting and receiving sites are most compatible with industrial, commercial, or public and quasi-public land uses, such as utilities, because of the basic intended function of these sites and the associated activities by which their operation is characterized. Compatibility with land use planning is derived from the function or purpose such as operation of the site; construction activities do not have any substantive bearing on impacts to land use planning. Therefore, only impacts from operations will be discussed in this section.

The Proposed Action is located next to a Regional Communications Center and an existing 275' transmitting and receiving tower. The proposed operation is entirely compatible with the current use of the facility. The project site is not located in a coastal zone or coastal barrier resources, and no local zoning rules prohibit the Proposed Action. Therefore, no significant impact would occur related to general land use compatibility with the Gray Tower site.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. Therefore, there would be no impacts to general land use compatibility, coastal zone, or coastal barrier resources resulting from the No Action Alternative.

Resource 9 - Infrastructure

Impacts to infrastructure are typically observed as disruptions in service and utilities, either short- or long-term, resulting from increases in demand that may overwhelm the capacity of the local area to absorb them. Engagement in a planning process to ensure that system capacity will be able to meet projected increases in demand is the most effective way to avoid impacts to infrastructure, although resources may not always be available to implement upgrades.

Proposed Action

Utilities

Construction-Related Impacts: Short-term minor impacts on utility quality and availability would be anticipated for developed areas. In the unlikely event that construction or maintenance activities result in actual damage to a utility system or interruption of services resulting from installation of the Proposed Action, a short-term significant impact may occur. For the Gray Tower which is located in a rural area involving new construction, construction-related activities would require additional short-term electric

and communication services from available utility networks. Construction-related impacts are not expected to lead to major shortages in supply, nor are they expected to require major changes to the system. Impacts to utilities would not be significant. During construction-related activities related to the Proposed Action, precautions would be taken to avoid damage to existing utility lines. All potential modifications to utility services would be evaluated. Coordination with potentially affected local and regional utility service providers would occur to avoid unnecessary damage or interruption of service. There would be no significant impact to utility services from construction related activities with the Gray Tower site.

Operations-Related Impacts: The Proposed Action would not be expected to cause noticeable impacts to local utility services across all category types. Operations impacts are not expected to lead to major shortages in supply, nor are they expected to require major changes to the services. There would be no significant impact to utility services from operations-related activities of the Gray Tower site.

Transportation Network

Construction-Related Impacts: For the Gray Tower site construction-related activities, heavy equipment and materials that may be needed for site access and site preparation would not pose a significant impact to the transportation network. Construction of the Proposed Action may require numerous truck trips to haul materials to a project site or to dispose of waste materials. The number of construction-related trips and the frequency and duration of impacts would be dependent on the location, nature, and scale of the project. Since the Gray Tower site is a 275-foot freestanding self-support tower with a surface impact of less than 0.23 acres in size, the project would not require a significant amount of construction-related traffic. During the construction period, the movement of heavy equipment and materials to a project site during construction may cause a relatively short-term increase in the level of service along local roadways.

Potential impacts to transportation are expected to be low, provided appropriate planning and implementation actions are taken. Existing roads would be used to the maximum extent possible. There would be no significant impact to transportation networks from construction-related activities.

Operations-Related Impacts: Due to limited footprint of the Gray Tower site, less than 0.23 acres, a small number of weekly trips by medium-duty vehicles and/or personal vehicles will be required. These trips will not add a substantive traffic load to the existing operation of the facility.

Transportation activities during operations would not be expected to cause noticeable impacts to local transportation networks. There would be no significant impact to transportation networks from operations-related activities.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. There would be no impact to utilities or the transportation network resulting from the No Action Alternative.

Resource 10 - Socioeconomic Resources

Impacts to socioeconomic resources are assessed in terms of the effects of expenditures on the overall local economy and the impact of in-migration on demographics, employment, the availability of housing, and the ability of a jurisdiction to provide services such as education and public safety. In addition, disproportionate impacts to low-income or minority populations would result in adverse environmental justice impacts.

Proposed Action

Under the Proposed Action, expenditures associated with the implementation of PSIC-funded grant programs would represent a small portion of overall statewide spending and a small portion of the statewide economy. The implementation of PSIC-funded project may result in an increase in jobs as a result of the construction of the Gray Tower site, but the increase is not expected to be significant in Cumberland County, Maine. There would, therefore, be no expected in-migration and therefore no impacts expected to demographics, the supply of housing, or other local entities to provide public services. Since the Proposed Action is not disproportionately proposed for low-income or minority areas, no significant impacts to environmental justice would be expected.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. Under this alternative, there would be no increase in economic activity and job creation related to implementation of the program. Therefore, there would be no PSIC-related impacts to demographics, the availability of housing, the availability of services, or environmental justice.

Resource 11 - Human Health and Safety

Impacts to human health and safety can come from a wide range of activities. Workplace and construction site safety can adversely impact health and safety, as well as the generation, handling, storage, use, or disposal of hazardous or toxic materials.

Proposed Action

Construction-Related Impacts : Under the Proposed Action, there would be a slight increase in workplace safety hazards during the construction phase of the Gray Tower because of the nature of construction work and the increased intensity of work at the proposed project site. The impact of this increase would not be significant. Work areas surrounding construction activities would be fenced, and appropriate signs would be posted to further minimize safety risks. In addition, implementation of worker safety rules, derived from OSHA safety and health standards, will establish a uniform set of safety practices and procedures to protect workers. Construction-related impacts to human health and safety impacts would not be significant.

Operations-Related Impacts: Under the Proposed Action, fuels needed to power backup generators would have to be stored on site in above-ground or vaulted tanks, to minimize the risk of soil contamination in the event of a leak. The proposed project will include installation of a 1000 gallon liquid propane tank at the Gray site. BMPs for the handling, storage, use, and disposal of fuels such as propane would include regularly monitoring and inspecting tanks for leaks. Depending on the size of the storage tank, a spill prevention, contingency, and countermeasure (SPCC) plan may need to be developed. The Gray Tower site would be fenced, and access would be restricted to authorized personnel to minimize risks to human health and safety. There would be no significant adverse impacts to human health and safety resulting from operation of the Gray Tower site under the Proposed Action.

Further, the implementation of Proposed Action would enable public safety agencies to improve interoperable communications and communicate more effectively in an emergency or crisis situation. This would result in an operations-related beneficial impact to human health and safety.

No Action Alternative

Under the No Action Alternative, there would be no renovations to the existing facility, nor would there be any new construction. Current interoperability gaps would continue, compromising the ability of first responders to respond effectively and rapidly to emergency situations. There would be adverse impacts to human health and safety as a result of the No Action Alternative.

Chapter Five – Findings and Conclusions

Findings

The Proposed Action will require construction of a new transmitting and receiving tower involving a self-supporting telecommunications tower over 200 feet and ground-disturbance totaling 0.23 acres.

The Proposed Action will not involve any of the unusual risks or impacts to sensitive areas identified in Section 4 that would require site-specific EA. The No Action Alternative would result in adverse impacts to human health and safety. Therefore, the Proposed Action would warrant the issuance of a FONSI to cover those actions for which no significant impact has been determined.

In accordance with 47 CFR Section 1.1307 (a) (1) through (8), an evaluation has been made to determine whether any of the listed FCC special interest items would be significantly affected if a tower structure and/or antenna and associated equipment control cabinets were constructed at the proposed site location. No FCC special interest items were identified that would require that an EA to be prepared.

Consequences of the Proposed Action

The Proposed Action would not have a significant impact on any resources identified within the eleven resource parameters described in Section 4. The Proposed Action would have beneficial impact on human health and safety, because it would enable statewide improvements to public safety interoperable communications.

Consequences of the No Action Alternative

Under the No Action Alternative, no interoperable communications capability would occur. Existing gaps in public safety interoperable communications would persist, resulting in an adverse impact to human health and safety.

Chapter Six – List of Preparers

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Chapter Seven – References

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